

(c) ~~generating an interaction the proteomic map from the determination of (a) that is more closely correlated with the pathophysiological process than if the determination of (a) were not carried out in the presence of simulated redox state perturbation(s) that is characteristic of and specific to the pathophysiological process, and from the determination of (b) that is more closely correlated with the physiological process than if the determination of (b) were not carried out in the presence of redox state that is associated with the physiological process~~ by identifying different proteomic interactions between (a) and (b).

2. (Currently Amended) The method of Claim 1 further comprising comparison of the ~~genomic actions and/or~~ proteomic interactions determined in (a) and the ~~genomic and/or~~ proteomic interactions determined in (b) to determine ~~genomic actions and/or~~ proteomic interactions that are causally related to the pathophysiological process.

3. (Currently Amended) A method of identifying target proteins ~~and/or genes~~ related to a disease comprising challenging cells involved in the disease with agent(s) to produce and identify redox state-related modifications of proteins and/or lipids that would subsequently mediate protein modification or that are characteristic of the disease.

4. (Original) The method of Claim 3 where the agent(s) constitute at least one redox state modifier molecule which is generated *in vivo* in the disease and affects the redox state of the cells in the disease and the modifications are protein-protein interactions obtained in response to the presence of the at least one redox state modifier molecule.

5. (Original) A method of correlating protein interaction(s) with oxygen tension comprising determining protein interaction(s) in the presence of an oxygen tension different from that in room air.

6. (Original) The method of Claim 5 where any set of proteins are employed in the determination, which are associated with a physiological process or a pathophysiological process.

7. (Original) The method of Claim 5 where a plurality of determinations are made with different oxygen tensions being employed in each determination.